

ABSTRACT OF THE DISCLOSURE

An encoder comprises an input device for sampling an input signal at predetermined time intervals to obtain sampled data on a temporal axis, a conversion device for converting the sampled data on the temporal axis to spectral data on a frequency axis, a quantization device for quantizing the spectral data on the frequency axis, and an output device for outputting a resultant value of quantization as an encoded bit stream. The quantization device comprises an expected-value-of-quantization adjustment portion for determining an expected value of quantization for a specific sub-band on the frequency axis, and a quantization portion for determining a quantization coefficient for the specific sub-band, and quantizing each of a plurality of spectral data contained in the specific sub-band using the quantization coefficient for the specific sub-band. The quantization coefficient for the specific sub-band is determined so that a resultant value of quantization obtained by quantizing one spectral data selected from the plurality of spectral data contained in the specific sub-band, using the quantization coefficient for the specific sub-band, is substantially equal to the expected value of quantization for the specific sub-band.